Graphic Controller 8 PCB

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1 General

In case of repair, replace the complete printed circuit board.

Electrostatic discharge may damage electrostatic sensitive devices. When handling electrostatic sensitive devices, use a static-dissipative mat and a static dissipative wrist strap.

1.1 Testing the Graphics Controller 8 PCB

Check the Graphics Controller PCB using the “external service mode with personal computer”.

1.2 Replacing the Graphics Controller 8 PCB

1 Switch off the device.

2 Unplug the power plug of the device from the socket-outlet.

3 Disconnect the compressed-gas supply hoses from the central gas supply.

Electrostatic discharge may damage electrostatic sensitive devices. When handling electrostatic sensitive devices, use a static-dissipative mat and a static dissipative wrist strap.

4 Create ESD conditions.

5 Remove the control unit from the interlock of the device and place it on a static-dissipative mat.

6 Unscrew the screws of the plug-in connector (Fig. 1/1) on the back of the control unit, and disconnect the connecting cable from the control unit.

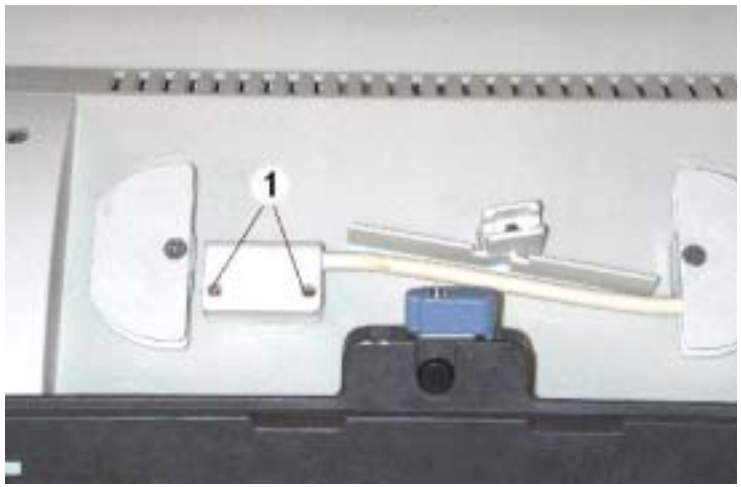

Fig. 1 Plug-in connector

7 Place the control unit on the static-dissipative mat.

8 Remove the screws (Fig. 2/1).

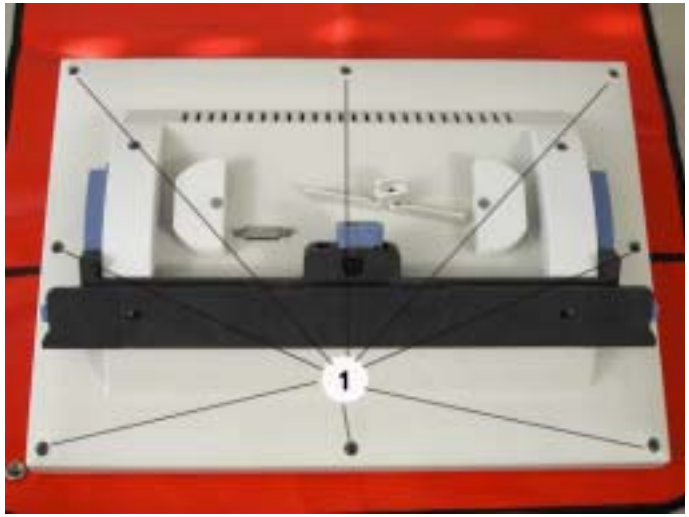

Fig. 2 Rear panel of the control unit

9 Remove the device cover and put it aside.

10 Remove DSUB threaded bolts (Fig. 3/1) that were secured with Loctite.

Do not reuse DSUB threaded bolts that have been secured with Loctite! Dispose of removed DSUB threaded bolts that have been secured with Loctite according to applicable waste disposal regulations.

11 Dispose of DSUB threaded bolts according to applicable waste disposal regulations.

12 Remove the cap nuts (Fig. 3/2).

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Do not reuse cap nuts (self-locking nuts)! Dispose of removed cap nuts according to applicable waste disposal regulations.

13 Dispose of cap nuts according to applicable waste disposal regulations.

14 Remove the washers (Fig. 3/2).

15 Remove the cover and put it aside.

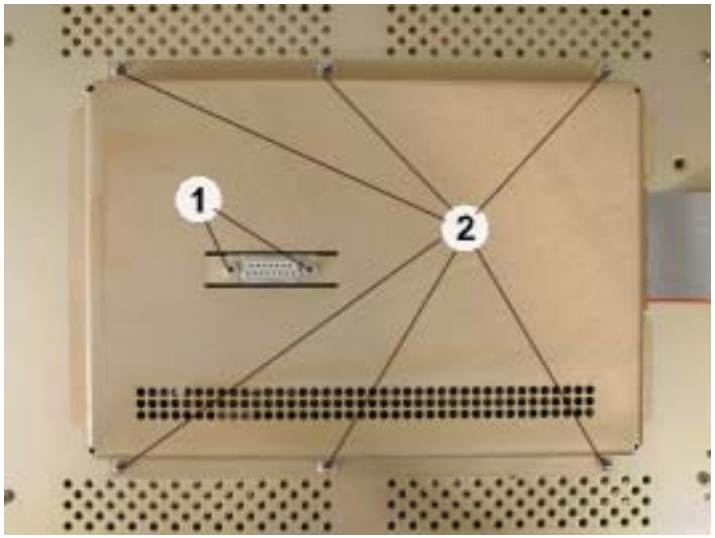

Fig. 3 Cover

16 Disconnect the connector (Fig. 4/1) from the plug-in connection.

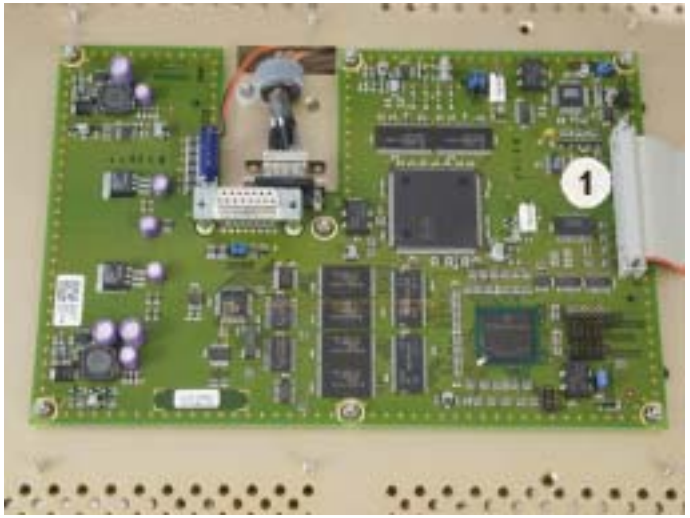

Fig. 4 Graphic Controller 8 PCB

17 Remove the cap nut (Fig. 5/1).

Do not reuse cap nuts (self-locking nuts)! Dispose of removed cap nuts according to applicable waste disposal regulations.

18 Dispose of cap nut (Fig. 5/1) according to applicable waste disposal regulations.

19 Remove the washer (Fig. 5/1).

20 Remove the cable clamp with ferrite core and washers from the stud.

21 Disconnect the cable connectors (Fig. 5/2).

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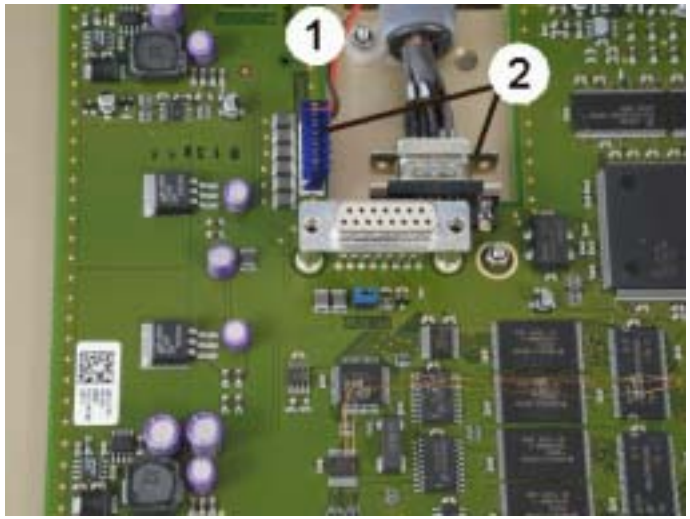

Fig. 5 Detail of the Graphics Controller 8 PCB

22 Remove the cap nuts (Fig. 6/1).

Do not reuse removed cap nuts (self-locking nuts)! Dispose of removed cap nuts according to applicable waste disposal regulations.

23 Dispose of cap nuts (Fig. 6/1) according to applicable waste disposal regulations.

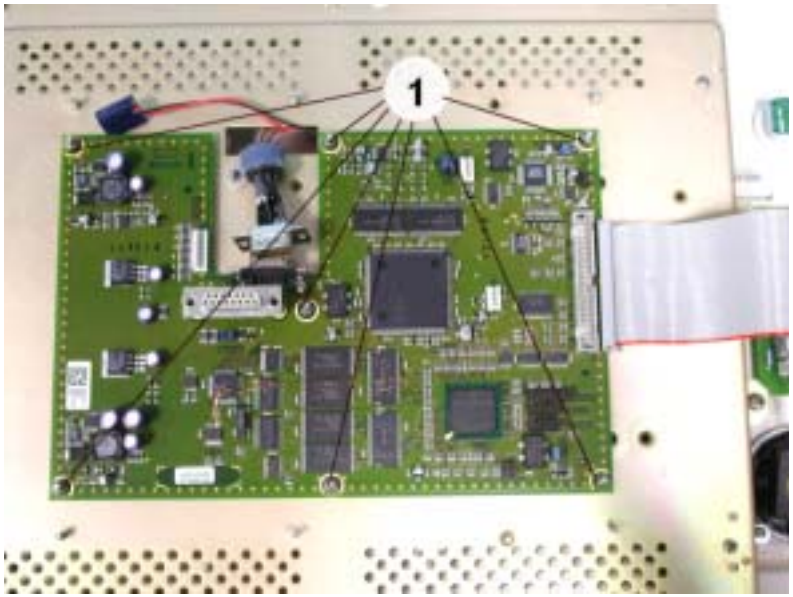

Fig. 6 Attaching the Graphics Controller 8 PCB

A faulty Graphics Controller 8 PCB is special waste. Dispose of a faulty Graphics Controller 8 PCB according to applicable waste disposal regulations.

24 Remove the faulty Graphics Controller 8 PCB and dispose of according to applicable waste disposal regulations.

25 Check that two washers (Fig. 7/1) each have been mounted on each stud.

26 Place the new Graphics Controller 8 PCB onto the frame.

To allow for a secure attachment, you must use new cap nuts (self-locking nuts) in the following work step!

27 Secure the Graphics Controller 8 PCB using new cap nuts (Fig. 7/1).

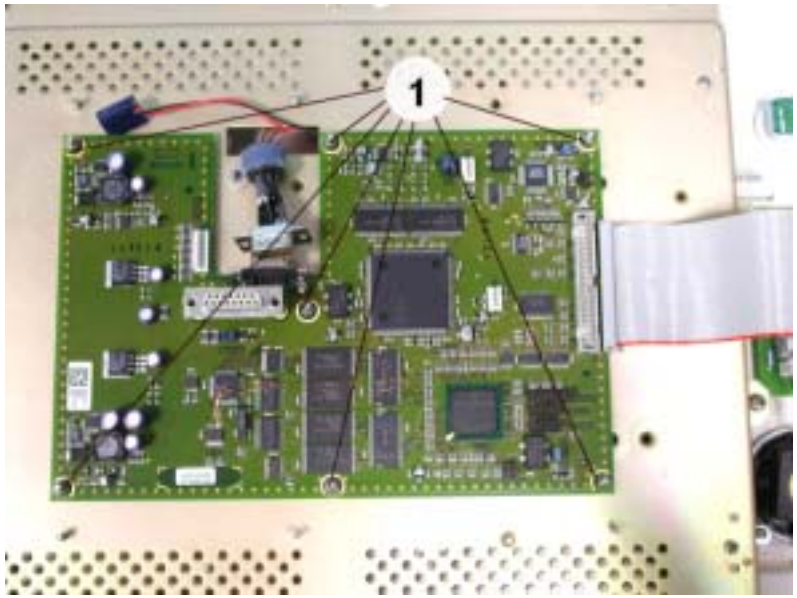

Fig. 7 Attaching the Graphics Controller 8 PCB

28 Plug both connectors (Fig. 8/2) into the sockets.

29 Push both washers in between the cable clamp with ferrite core and slide the whole assembly over the stud (Fig. 8/1).

30 Slide the washer (Fig. 8/1) over the stud.

To allow for a secure attachment, you must use a new cap nut in the following work step!

31 Secure the cable clamp with ferrite core to the stud using a new cap nut (Fig. 8/1).

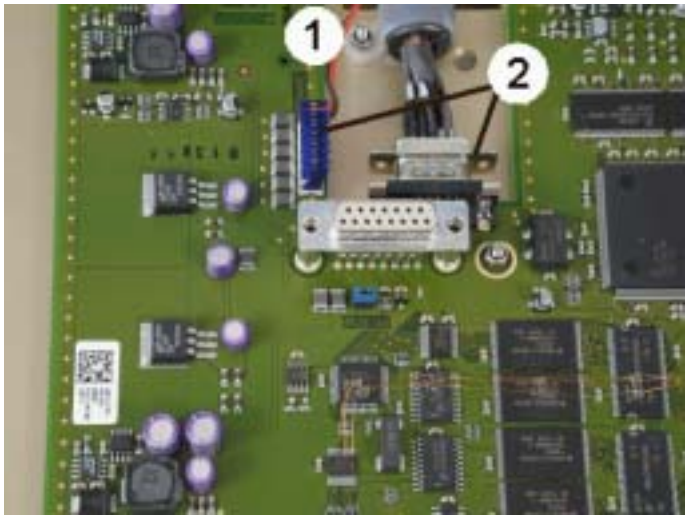

Fig. 8 Detail of the Graphics Controller 8 PCB

32 Plug the connector into the plug-in connection (Fig. 9/1).

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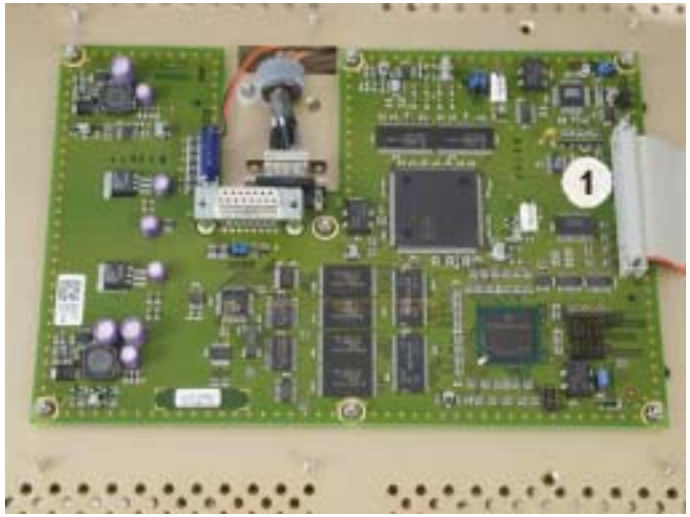

Fig. 9 Graphic Controller 8 PCB

33 Place the cover onto the installation frame.

34 Slide the washers (Fig. 10/2) over the studs.

To allow for a secure attachment, you must use new cap nuts (self-locking nuts) in the following work step!

35 Secure the cover using new cap nuts (Fig. 10/2).

To allow for a secure attachment, you must use new DSUB threaded bolts in the following work step!

36 Apply Loctite onto the threads of the new DSUB threaded bolts (Fig. 10/1), then secure the cover to the connection socket using the DSUB threaded bolts.

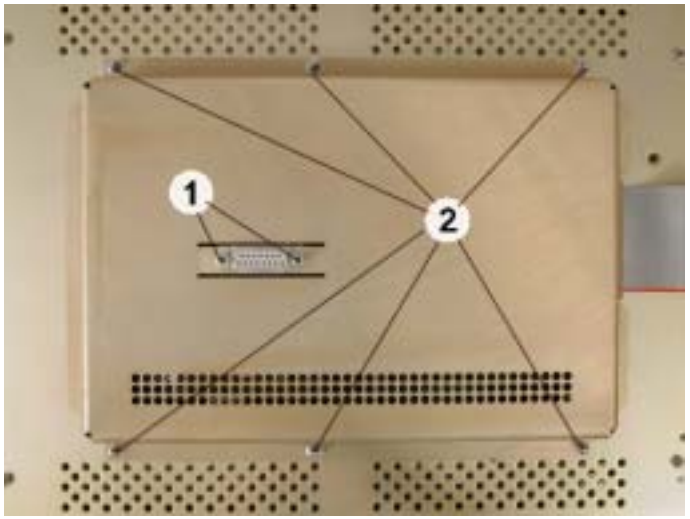

Fig. 10 Cover

37 Place the device cover onto the control unit and secure it with the screws (Fig. 11/1).

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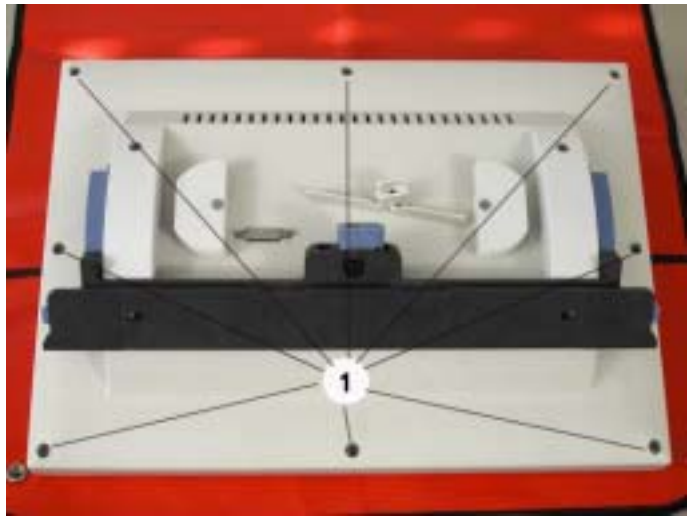

Fig. 11 Rear panel of the control unit

38 Plug the connection cable into the control unit, and secure the plug-in connector to the rear panel of the control unit using the screws (Fig. 12/1).

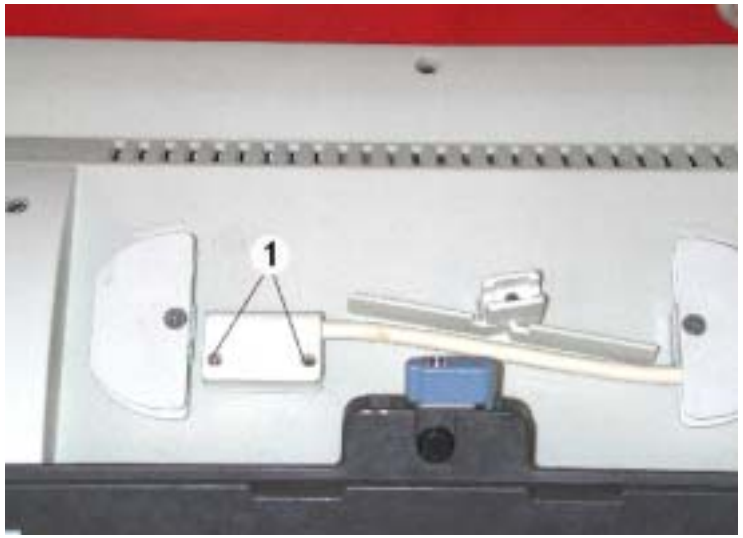

Fig. 12 Plug-in connector

39 Push the control unit into the interlock of the device.

40 Plug the power plug of the device into the socket-outlet.

41 Switch the device on.

42 Install the respective Graphics Controller 8 PCB software, see “Repair Instructions”, section “Download”.

43 Perform “electrical safety tests” and “function tests” as described in the PMS procedure. For the USA and Canada: test according to CAN/CSA-22.2 No. 601.1-M90.